

REMARKS/ARGUMENTS

This reply is in response to the Office Action dated June 13, 2007. Claims 56-137 are pending in the application and stand rejected. Claim 1 has been amended to expressly recite implicit aspects of the invention. Claims 85-86 and 88-89 have been amended for reasons discussed below. No new matter has been added and such proposed amendments do not require an additional search or further consideration not already done by the Examiner. Accordingly, entry of the foregoing amendment and reconsideration of the claims is respectfully requested.

35 U.S.C. §112

Claims 85-86 and 88-89 stand rejected under 35 U.S.C. §112, second paragraph. Applicant has amended those claims to correct the unintentional antecedent basis informalities, obviating the rejection. Accordingly, withdrawal of the rejection is respectfully requested.

35 U.S.C. §103(a) - Obviousness

Claims 56-137 stand rejected under 35 U.S.C. §103(a) as unpatentable over Lue et al. (U.S. Patent No. 6,255,426; hereafter "Lue") in view of Takahashi et al. (EP Patent No. 982 362 A1; hereafter "Takahashi") and Wong et al. (U.S. Patent No. 6,358,457; hereafter "Wong"). The Examiner states, "The rejection is the combination of the teachings of Lue, Takahashi and Wong and not an inherent argument over Lue alone." The Examiner then states that additives such as a tackifier can affect the overall properties of the film, and states that Takahashi teaches that the tackifier is added in an amount not to detrimentally affect the properties of the film. The Examiner then concludes that one of ordinary skill in the art would have realized that tackifier can be added to the film of Lue to provide cling without detrimentally affecting the film based on the teachings of Takahashi.

Applicants respectfully traverse this rejection on grounds that the Examiner has not established a *prima facie* case of obviousness. Lue discloses a copolymer that could be useful for stretch films, but makes no mention of tackifier. To cure this deficiency the Examiner relies on the teaching of Takahashi. However, Takahashi discloses films made from completely different copolymers than Lue and states that "additives, such as antioxidant..., phosphites..., cling additives..., pigment, colorant and filler can be added in amounts not detrimental to the

improved film properties found by the present applicants." See, Takahashi at page 34, ll. 50-55 (emphasis added). Takahashi makes no mention of a tackifier without the other five additives. Indeed, Takahashi discloses adding tackifier as one component of a class of six different kinds of known additives. Moreover, Takahashi makes no mention or teaching as to how much tackifier would be "detrimental to the improved film properties." Such absence of tackifier in Lue, when tackifiers in stretch films were conventional wisdom and well known, and the teaching of Takahashi that the addition of six kinds of additives is detrimental to film properties, one of ordinary skill in the art reading those references would not be motivated or driven to the claimed invention, but yet motivated in the opposite direction, i.e., no tackifier. For at least this reason, the claims are not taught, shown or suggested by a combination of Lue and Takahashi.

Notwithstanding, tackifier is conventionally used in stretch films to provide cling. See, specification (U.S. Publication 2004/0048019 A1) at paragraph [0003]. However, the use of a tackifier is tricky and unpredictable, presumably the very reason why Lue makes no mention or use of tackifier. Usually the presence of a tackifier diminishes the stress-strain behavior of the film causing lower holding forces and local deformation leading to break, hole formation, tiger striping, or other defects upon stretching.

Conversely, the inventors have discovered that the addition of a tackifier to the claimed copolymer did not exhibit such defects. In fact, the opposite was true. Films of the claimed invention showed higher holding force than conventional films of the same film thickness. See specification at [0170]. Example 5 and Figures 2A and 2B show objective evidence of this conclusion. Furthermore, it has been surprisingly found that films of the claimed invention exhibit improved properties, such as applicability over a wide range of stretch ratios without suffering from local deformation leading to break, hole formation, tiger striping, or other defects. Id.

As previously noted, films with tackifier according to the claimed invention exhibited surprising and unexpected stress-strain behavior compared to prior art films without tackifier. Applicant's specification compared the effects of films with and without tackifier, and revealed the significant and unexpected differences upon addition of tackifier to the films according to the claimed invention and to the comparative films. In Figures 2A and 2B, curve 32 represents a

film made from the claimed copolymer without tackifier and curve 34 represents a film made from the commercially available EXCEED™ 1018 resin without tackifier. A publicly available product data sheet for the EXCEED™ 1018 resin is appended hereto. Note that the EXCEED™ 1018 resin has a density of 0.918 g/cc and a MI of 1.0 g/10min, both within the respective claimed ranges of the claimed copolymer. Yet, a film made from this polymer showed substantially different stress-strain behavior than a film comprising the claimed copolymer.

Table 1 below shows the natural draw (ND) ratio; tensile strength (TS) at the ND ratio; and the TS at second yield for the films without any tackifier.

TABLE 1 – Films without tackifier

	Claimed copolymer (curve 32)	EXCEED™ 1018 (curve 34)	Percent Difference
ND ratio	310	370	-19%
TS@ND ratio	27	26	4%
TS@2 nd yield	16	10	38%

Examples 6-10 and Comparative Examples 2-4 illustrate the effects of adding tackifier to the films of Table 1. The effects of adding tackifier to the films are shown in Table 2 below. Such effects were nothing short of surprising and unexpected. As mentioned above, significantly diminished stress-strain behavior with the addition of tackifier to the films would be expected by those of ordinary skill in the art. However, the films according to the present invention (Examples 6-10) surprisingly and unexpectedly showed very little, if any, diminished stress-strain behavior; whereas, the expected diminished stress-strain behavior was observed in the comparative examples. See Table 2 below.

TABLE 2 – Films of Table 1 with tackifier

	Ex 6	Ex. 7	Ex. 8	Ex. 9	Ex. 10	Comp. Ex. 2	Comp. Ex.3	Comp. Ex. 4
ND ratio	330	330	330	350	355	395	385	340
TS@ND ratio	24	26	26.5	28.5	25	21	21	20
TS@2 nd yield	14	17	16	16	15.4	12.4	12.8	13.5

The percent differences between the films according to the claimed invention, with tackifier (Examples 6-10) compared to the same film without tackifier (curve 32), is shown below in Table 3.

TABLE 3 – Percent difference between inventive film with tackifier and same film without.

	Ex 6	Ex. 7	Ex. 8	Ex. 9	Ex. 10
ND ratio	6%	6%	6%	11%	13%
TS@ND ratio	-13%	-4%	-2%	5%	-8%
TS@2nd yield	-14%	6%	0%	0%	-4%

Notice the natural draw ratio (ND ratio) increased up to 13% for all films while the tensile stress at the natural draw ratio (TS@ND ratio) only decreased up to 13% and the tensile stress at second yield (TS@2nd yield) only decreased up to 14%. Example 9 actually experienced an increase in tensile stress at the natural draw ratio and Example 7 experienced an increase in tensile stress at second yield. Examples 8 and 9 showed almost no change. Such significant increase in natural draw ratio with minimal loss in tensile stress, and in some cases an increase in tensile stress, was unexpected and surprising since significant decreases in all three would have been expected as shown in Table 4.

Table 4 shows the percent differences between the comparative films, with tackifier (Comp. Ex. 2-4) and without tackifier (curve 34).

TABLE 4 – Percent difference between comparative film with tackifier and same film without.

	Comp. Ex. 2	Comp. Ex.3	Comp. Ex. 4
ND ratio	6%	4%	-9%
TS@ND ratio	-24%	-24%	-30%
TS@2nd yield	19%	22%	26%

Notice the natural draw ratio (ND ratio) increased only 6% at best while Comparative Example 4 actually experienced a decrease of 9%. These films also experienced a significant decrease in tensile stress at the natural draw ratio (TS@ND ratio) from about 24% to as much as 30%. Such differences are significantly greater than (more than 2 times) the losses of the claimed films (< 13%). Further, the comparative films experienced a significant increase in tensile stress at the second yield (19% to 26%) which flattens or lowers the yield plateau slope. As stated in paragraph [0254] of the specification, the yield plateau slope is indicative of the

film's ability to absorb variations in film thickness as the film is stretched. The flatter or lower the slope, the greater the propensity to suffer from local deformation such as tiger-stripping.

In short, no one of ordinary skill in the art would have thought adding tackifier to a copolymer as taught by Lue would produce stretch films that exhibit the combination of a large natural draw ratio, large tensile stress at second yield, large tensile stress at the natural draw ratio, and positive yield plateau slope large enough to absorb typical variations in film thickness uniformity without tiger striping. Instead, one of ordinary skill in the art would have expected a diminution in properties as shown by the Comparative Examples. This could very well be the reason why Lue makes no mention of a tackifier. Lue may have anticipated and sought to avoid diminishing its film properties due to the presence of a tackifier. Surprisingly, the present invention has found the contrary.

Finally, the Examiner has requested additional comparative data with Lue, and states:

Applicant's specification makes it clear that the tackifier is not required to make the properties claimed, but instead allows the properties of the film that was taught in Lue to retain those properties even when a tackifier is added because the tackifier does not substantially effect those properties with regard to the inventive film, which is the same as the film taught in Lue, but does effect those properties with regard to EXCEED 1018, which is not used in the prior art cited.

Applicant notes that one difference between the claimed invention and Lue is the presence of a tackifier. The EXCEED 1018 comparative example is provided to illustrate the conventional wisdom that the addition of tackifier severely diminishes a film's properties. There is no way the Applicant can provide an example that adds tackifier to Lue, the cited prior, to show that the tackifier diminishes the Lue's film property, because the opposite is true. The claimed invention adds tackifier to copolymers similar to Lue and realized surprising and unexpected results that are contrary to conventional wisdom and customary belief. The film properties were unchanged and in some cases, actually improved to a substantial and significant degree.

It was known by those of ordinary skill in the art that the mere presence of a tackifier would diminish the properties of Lue. However, the present invention has discovered that such properties of Lue were not diminished but, in fact, improved to a substantial and significant

degree. That finding alone distinguishes the claimed invention (copolymer with tackifier) from the structure and/or composition of Lue, because the presence of the tackifier modified the structure and/or composition of the claimed copolymer in such a way to provide surprising and unexpected stress-strain behavior.

Applicant thus submits that one of ordinary skill in the art would appreciate that the claimed invention is unique and nothing short of surprising and unexpected. Therefore, the claimed invention is novel and not obvious in view of Lue and Takahashi.

CONCLUSION

Applicants believe that the foregoing is a full and complete response to the Office Action of record. For the foregoing reasons, Applicants submit that the present claims meet all the requirements for patentability. Accordingly, an early and favorable reconsideration of the rejection, and allowance of pending claims 56-137 is requested.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated, since this should expedite the prosecution of the application for all concerned.

If necessary to affect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to affect a timely response. Please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1712 (Docket #: 2002B117/2US).

Respectfully submitted,

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